

2025

SPARC Year in Review

Introduction to SPARC

Established in 2018, the Maryland Statewide Prevention and Reduction Collaborative (SPARC) is a quality improvement initiative that brings together public health agencies and academic institutions to support Maryland hospitals in addressing emerging challenges in infection prevention and antibiotic stewardship. SPARC is jointly led by the Maryland Department of Health (MDH), the University of Maryland, Johns Hopkins University, and implementation contractor NORC at the University of Chicago.

Over seven years, SPARC has cultivated a network of infection preventionists, clinicians, hospital leaders, and epidemiologists across Maryland, united by a shared commitment to advancing quality improvement in infection prevention and antibiotic stewardship. This collaborative infrastructure has remained responsive, evolving alongside the changing needs of Maryland hospitals:



2018-2019

From June 2018 to August 2019, SPARC focused on reducing *Clostridioides difficile* (C. difficile) rates in acute care hospitals across the state. This effort led to a 45% reduction in *C. difficile* infection rates among the 12 participating hospitals.

2020-2021

In September 2020, SPARC adapted its focus to support hospitals during the COVID-19 pandemic, serving as a valuable forum for navigating rapidly changing guidance and policies. An assessment of these activities confirmed SPARC's role as a key information resource during this period.

2022-Present

In 2022, as COVID-19 cases declined and other healthcare-associated infections (HAIs) began to rise, SPARC shifted again to address emerging needs in acute care settings, guided by participant needs assessments. For example:

- In 2023, SPARC hosted eight webinars over seven months focused on central line-associated bloodstream infections (CLABSI).
- From 2023-2024, SPARC led a sepsis intervention targeting broad-spectrum antibiotic use for sepsis at 8 participating facilities. The SPARC team provided tailored guidance, conducted site visits, and hosted group office hours.

Currently, SPARC is focused on two participant-driven arms of the collaborative:

- **An antibiotic stewardship initiative** to continue antibiotic stewardship support for Maryland hospitals and other healthcare settings across a range of topics and explore urgent care needs.
- **An infection prevention initiative** to address hospital water management, surgical site infections (SSIs), and pediatric infection prevention.

SPARC Activities in 2025

SPARC employs a combination of qualitative interviews, online pre- and post-assessments, and focus groups to determine hospital priorities and gather input on the collaborative's effectiveness. These evidence-based approaches help ensure that SPARC's topics align with participants' needs and interests. In 2025, SPARC focused on addressing hospital priorities related to antibiotic stewardship and infection prevention.

ANTIBIOTIC STEWARDSHIP

SPARC completed its sepsis intervention in 2024, which provided tailored guidance and ongoing support to eight facilities in Maryland interested in improving their antibiotic stewardship policies or practices. In 2025, SPARC engaged in discussions with leadership from urgent care facilities to discuss opportunities for peer-to-peer learning across urgent care teams.

Throughout the year, SPARC hosted biweekly webinars and office hours to discuss priority antibiotic stewardship topics and answer facility questions. SPARC explored 10 topics within three overarching areas. Webinars and office hours in 2025 covered the following themes:

1. **General Antibiotic Stewardship.** Topics included stewardship with older adults, stewardship in the emergency department, ethics of stewardship, outpatient antimicrobial stewardship, and nursing stewardship.

ENGAGING NEW AUDIENCES

Participants in SPARC activities include infection preventionists, infectious disease physicians, clinical pharmacists, and other clinicians (e.g., nurses, hospital administrators, and epidemiologists) from hospitals across Maryland. In 2025, SPARC expanded the reach of its activities to hospital personnel outside of infection prevention teams.



SPARC invited facilities management personnel (e.g., plumbing, HVAC, safety and compliance, environmental management) to **webinars discussing hospital water management practices**.



SPARC invited experts from a range of departments including the emergency room, pediatrics, outpatient, and nursing to discuss **antibiotic stewardship practices** and considerations in different settings.



SPARC began **engagement with urgent care teams** to discuss their antibiotic stewardship efforts.

2. Best Practice in Antibiotic Stewardship.

Topics included asymptomatic bacteriuria and urinary tract infections (UTI), surgical prophylaxis and changes in allergy guidelines, staphylococcus aureus bacteremia (SAB), and CLSI Breakpoints to set standards for antimicrobial susceptibility

3. Considerations for Treatment. One webinar compared oral versus IV antibiotics

In 2025, SPARC hosted two office hours sessions to provide individualized feedback and promote peer learning. The first office hours session, Antibiotic Stewardship Goals for 2025, had 32 registrants. Fourteen people registered for the second office hours session, Antibiograms and Working with Microbiology.

INFECTION PREVENTION

In 2024, SPARC launched an initiative focused on improving Maryland hospital's understanding of the processes around water management for infection prevention. In 2025, SPARC continued this initiative through the following components:

- Three webinars on water management.** During the webinars, SPARC and external experts discussed cross-functional risk assessments for water management and water testing. Additionally, two Maryland hospitals shared their experiences conducting water management interventions and lessons learned.
- Individualized water management coaching with two hospitals.** During the calls, SPARC facilitated discussions and provided advice for water management concerns specific to each hospital. SPARC also conducted follow-up calls and additional guidance via email to ensure facilities' questions were addressed.
- One office hour session on water management.** During the session, experts from MDH and the Maryland Department of Environment answered attendees' questions about water management. Facilities also shared their own experiences managing hospital water systems.

The Water Management Initiative concluded in May 2025. SPARC conducted a post-initiative survey to understand the impact of the Water Management Initiative on hospital water management practices. Approximately 93% of survey respondents reported implementing new or modified water management practices, and 77% of those respondents attributed these changes to their participation in the initiative.

SPARC BY THE NUMBERS

In 2025, SPARC completed:



24 biweekly webinars covering relevant antibiotic stewardship and infection prevention topics.

- An average of **139** attendees representing all Maryland acute care hospitals attend the biweekly webinars.
- **17** external speakers from academia, private industry, and state agencies were engaged for SPARC webinars.



3 office hours to allow participants to engage in a Q&A style conversation with experts.



2 coaching calls, giving Maryland hospitals individualized guidance on water management for infection prevention.



2 conference presentations, sharing information on SPARC's efforts to support hospitals in improving hospital water management practices.

SPARC YEAR IN REVIEW

The post-initiative survey and subsequent needs assessment identified new topics of interest amongst participants. To address these learning needs, SPARC launched two simultaneous initiatives in July 2025 focused on **surgical site infections (SSIs) and pediatric infection prevention**. Since launching the initiative, SPARC has hosted webinars focused on

- pediatric infection prevention in the NICU,
- an overview of SSI prevention practices,
- surgical irrigation approaches, and
- methicillin-resistant *Staphylococcus aureus* (MRSA) prevention in high-risk surgeries.

In addition to the water management, SSI, and pediatric initiatives, SPARC discussed additional infection prevention topics of interest at bi-weekly webinars, including measles preparedness, H5N1, nursing home transfers and multidrug-resistant organisms (MDROs), and evolving COVID-19 vaccine guidance.

Looking Ahead

SPARC has facilitated the exchange of best practices through peer-to-peer engagement, utilized data-driven approaches to guide its priorities, and delivered expert support via partnerships with public health and academic institutions—ensuring tailored assistance for the diverse challenges hospitals face.

In 2026, SPARC aims to disseminate findings on completed initiatives and relay successes to a wider audience through manuscript development. SPARC has submitted two manuscripts to peer-reviewed journals describing the impacts and lessons learned from the Sepsis Initiative and the Water Management Initiative.

In addition, SPARC will continue addressing hospital needs related to antibiotic stewardship and infection prevention.

ANTIBIOTIC STEWARDSHIP. In 2026, SPARC will explore innovative strategies to facilitate discussions and improvements in antibiotic stewardship across Maryland. The team will continue hosting targeted webinars, engaging with urgent care centers, and identifying additional opportunities to strengthen stewardship efforts beyond the hospital setting.

INFECTION PREVENTION. In 2026, SPARC will continue the SSI and Pediatric infection prevention initiatives through webinars, additional meetings held on webinar off-weeks, and individualized coaching. Once the initiatives are complete, SPARC will conduct a formal post-assessment to determine the initiative's success in improving facilities' knowledge and practices, and identify continued learning needs for upcoming activities.